

CHRISTMAS RADIO BOOM TO SWELL RANKS OF D. C. AMATEURS

INVASION OF RADIO HERE EXPECTED BY LOCAL OBSERVERS

Stores Prepare for Increased Sales by Filing Large Orders.

RADIO PERMANENCY

Scores Pessimists Who Called 'Invisible Voice' a Passing Fad.

Radio, that invisible lady whose expansive voice and receptive ear is the envy of all true gossips, will invade hundreds of Washington homes this winter, according to radio observers here.

Practically every large department store in the city is now preparing for the expected radio boom. Radio wares of every variety have been ordered and a tendency toward increased sales of radio is now under way, one radio expert declared yesterday.

Progress made by radio in the past several months has been phenomenal, especially in Washington. At its inception radio was termed a passing fad. Pessimists held dire results for its outcome. Yet it persevered and today the country has taken radio as a permanent institution, one that is brimful of educational features, interspersed with intrinsic enjoyment.

One can justly determine the part radio plays in the city by inspecting the home of a radio enthusiast family. Music, educational lectures, dramas, football results, opinions of world-famous characters—all of these are in reach of the local radio family. Father, mother and the kids listen to clear voices, distinct music, sounding over the air from some distant point.

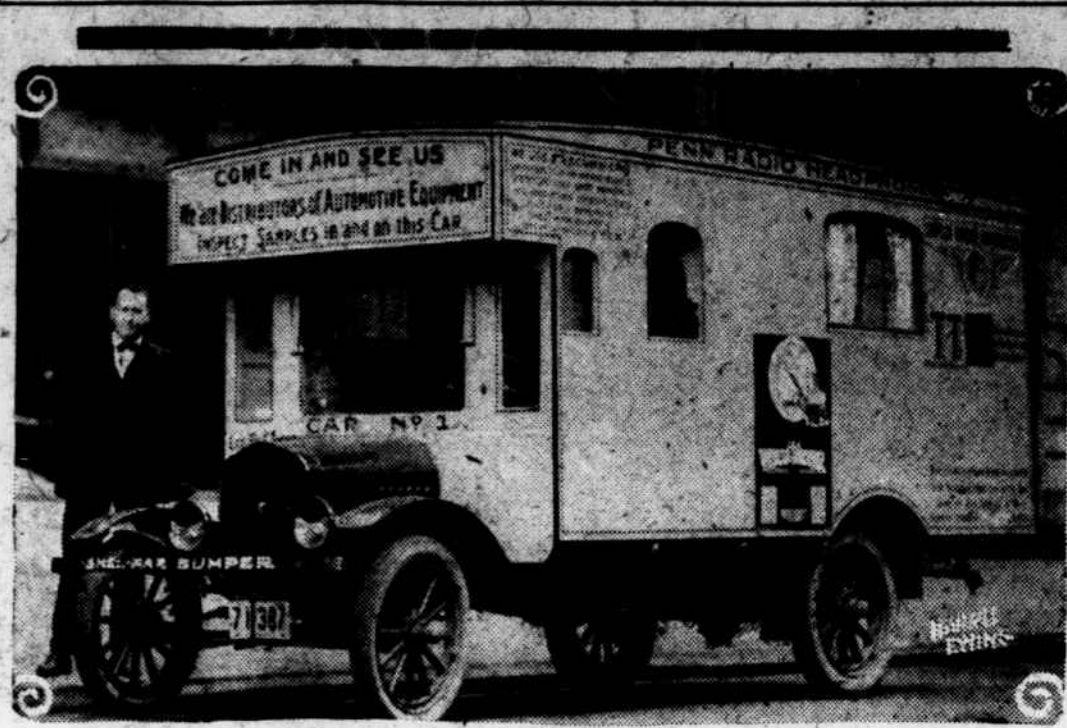
In the movement of the expansion of radio here, commendation is extended to the leading stores that have conducted their radio departments along such lines of efficiency. In these stores service has been the outstanding feature. An abundance of noteworthy radio programs has been presented to the public by these stores.

SEES FIRM MARKET IN URUGUAY RADIO

Recent modifications of the rigid laws governing the installation of wireless telephone and telegraph systems have made possible the installation of radio broadcasting, according to Vice Consul Edwin R. Montgomery of Montevideo.

Applications are now pending which, if granted, should mean the opening of a splendid market for radio telephone receiving apparatus in Uruguay.

A Clever Radio Minstrelsy



Auto now in the city en route to California via Florida. It is completely equipped with a radio receiving set. Radio concerts are given en route. The tour is in charge of Lee Oldfield and Frank Hodson, of Philadelphia. The radio manufacturers represented are the Simplex Radio Company, the Penn Headset Company, Timmons Talker Company and the Philadelphia Battery Company.

VARIOUS PROBLEMS CONFRONT PURCHASER OF RADIO SET

Short Wave Lengths Most Useful; Range Important Consideration.

The person who desires to obtain a radio receiving set is not usually interested in the technical details involved in the construction of the various instruments. From the viewpoint of the prospective purchaser the question arises: What is the actual worth of the set after it is installed in my home?

The purchaser of an automobile wants to know how many miles a car will go on a gallon of gasoline, and of its speed and ability to climb hills, the ease with which it can be operated, and the comfort and service it will render. The radio industry has not developed to the stage attained by the automobile, so that a purchaser cannot distinguish as easily between one set and another as between different cars. The radio buyer is confronted with crystal detector sets, vacuum tube sets and loud "speakers." Should he buy the crystal detector set, a single tube regenerative receiver or a two-stage amplifier and a loud "speaker"?

Must Consider Wave Length. The first thing to consider is what range of wave lengths and what distance in miles are to be covered.

The majority of radiohobby broadcasting stations operate on the 350 and 400 meter wave lengths. Most of the receiving sets on the market are designed for short wave reception, although additional inductance coils can be added to each in order to hear the higher wave lengths. Any wave length up to about 800 meters is considered in the short wave group.

An outdoor antenna should be used wherever possible. A single No. 14 copper wire about 100 feet in length serves well as an outside antenna for short wave reception. An indoor antenna or plug which fits in the light socket, permitting the use of the house light wiring system as the antenna, can be employed, but results with indoor antenna are never as satisfactory as those produced by the outdoor wire.

The ground connection for all sets can be made to a radiator or a cold water pipe. The point of contact should be filed clean, and the wire leading from the set soldered to the pipe. All connections on a radio receiver should be firm and clean. The energy picked up by a receiving station is extremely weak and any obstructions in the circuit such as loose or unclean connection will greatly impair the efficiency of the apparatus.

Range and Cost. Wave length is the distance from the crest of one wave to the crest of the succeeding one. It has nothing to do with the distance the set will cover any more than the distance from the crest of a wave in New York harbor to that of a succeeding wave has to do with the distance across the Atlantic. A crystal detector is less sensitive and more difficult to adjust than a vacuum tube detector. The range of a crystal receiver for radiophone reception under average atmospheric conditions is about twenty-five miles if an outdoor antenna is used. The range with an indoor antenna is about five miles. The cost of buying or making a simple crystal set will vary between \$10 and \$25, depending upon the grade of material used and the type of phones. A loud "speaker" will not function in connection with a crystal set. Galena is the most sensitive of minerals appropriate for use as a detector.

IN THE AIR TODAY.

WASHINGTON. NAA—NAVAL RADIO STATION, RADIO, VA.

3:45 to 4 p. m.—Closing live stock markets; hay and feed markets. 5 p. m.—Weather report. Daily magnetogram. 10 p. m.—Time signals; weather report; ship orders; 2,650 meters. Naval press news on 2,650 meters. Except where noted, sending is CW 5,950 meters.

WWX—POSTOFFICE DEPARTMENT STATION. (1,100 Meters).

3:30 p. m.—Report on fruits and vegetables. 5 p. m.—Report on dairy products and grain. 7:30 p. m.—Live stock and grain reports. Report on fruits and vegetables. 800 METERS UNLESS OTHERWISE NOTED.

Eastern Standard Time. WMU—DOUBLEDAY-HILL ELECTRIC COMPANY

4:30 to 5:30 p. m.—Sweet Indiana Home, Polka Boheme, Mighty Like a Rose, Sweet Hawaiian Moonlight, Romance, Lucia, Rhapsodie, Caprice Viennois, The Lost Chord, Poeme Erotique, Swanee Bluebird, La Plus que Lene, Naughty Waltz, Sweet Peggy O'Neil.

WJAY—WOODWARD & LOTHROP. (Still Reproducing Piano Used With Piano Solo.)

10:30 to 11:30 a. m.—Piano solos. Contr. Dance, By Moonlight. Victor selections: Last Rose of Summer, Dew Is Sparkling, Elgis, Who Is Sylvia, Scherzo (op. 12 No. 2). Piano solos: Dinner Waltz, Why? Victor selections: Turkish March, Liebestraum, Sparks, Mari Maria, Pagliacci.

2 to 3 p. m.—Victor selections: The Swallows, Swiss Echo Song, Carmen Aragonaise, Damnation of Faust, Colleen of My Heart. Piano solos: Norwegian Bridal March, Mazurka. Victor selections: Ideale (tenor solo), Love Me Not (tenor solo), Nobody Knows the Trouble I See, For Butterflies, Nina. Piano solos: Melody in F, Caprice Valse.

Listening-In Concerts.

GENERAL PUBLIC INVITED. Tonight at 8.

Capitol Radio Sales Agency, 724 Eleventh street northwest. The Hecht Company, music department, 618 F street northwest. Peoples Drug Store, Seventh and E streets northwest.

Rice's Orange Beverage Parlor, Eighth and E streets southeast. Foy's Radio Supply House, 502 Eighth street southeast. Above places store hours also.

Store Hours Only. Programs Daily, 12 to 1 and 4 to 6:40 p. m.

Doubleday-Hill Electric Company, 715 Twelfth street.

Continental Electric Supply Company, 808 Ninth street northwest.

Thomas E. Williams, Inc., 1324 New York avenue.

National Electric Supply Store, 1329 New York avenue.

Gibson, Company, 519 G street northwest.

Continental Electric Supply Company, 808 Ninth street northwest.

The Radio Shop, 1521 G street northwest.

Hines Auto Supply Co., 920 D street northwest.

Quality Accessory Company, 1317 H street northeast.

Harry C. Grove, Inc., 1210 G street John C. Rau, 524 Twelfth street.

White and Boyer, 513 Thirteenth street northwest.

The Hecht Company, Fourteenth and Park road.

Lansburgh and Brother, 420 Seventh street.

Woodward and Lothrop, Eleventh and F streets.

The Hecht Company, music department, 618 F street.

WEAS—THE HECHT COMPANY. Broadcasting.

3 to 5 p. m.—Edison phonograph selections—Children's Lullaby, Jimmy I Love You, Trumurel, From the Canbrake, Alabama Mammy, Tell Her a Twinkle, Hawaiian Eyes, The Glowworm, My Dusky Lullaby, False Arabesque, Rigandon, Gulbransen piano selections—Flower of Hawaii, Waltz, My Old Kentucky Home, Hot Lips.

Radio Vandeville Entertainment. 5 p. m.—Selection for tuning is played on the Gulbransen piano.

7:05 p. m.—Paul Gollibart, composer, introducing his latest success, "Sylvia."

7:10—Paul Gollibart will play a piano solo, "Love Sends a Little Message"—Gollibart.

7:15—Henry Duffy, manager of the new President Players, will speak on the subject, "The Purpose of the Theater."

7:25—"Blue Fox Trot," played by Walter Reed Melody Boys.

7:30—"Tricks" Fox Trot, played by Walter Reed Melody Boys.

7:35—John Carmody of the New President Players will sing "Smiling Thru," by Penn.

7:40—"Naughty the South Sea Moon," fox trot, played by Walter Reed Melody Boys.

7:45—"Dancing Fool," fox trot, by the Walter Reed Melody Boys.

7:50—"The Walter Reed Melody Boys will play: "Nobody Lied," "Deedle, Deedle, Dum."

8:00—Closing announcements. WPM—THOS. J. WILLIAMS, INC. Daily.

12 noon—Epiphany Chimes. 12:30 p. m.—Report on stolen autos. 12:35 p. m.—News items. Music during intervals.

3 YN—NATIONAL RADIO INSTITUTE. TUTE.

6:30 to 7:30 p. m.—News items, code. WJH—WHITE AND BOYER. 1 to 2 and 4 to 4:30 p. m.—Music and features.

Holtzer-Cabot Radio

Telephone Headsets

Suppose you had been making electrical devices for years and you knew how to make them perfect in design, material and results? All your friends who needed them would want them. That's why all the wise Radio experts and fans insist upon Holtzer-Cabot Headsets.

Sold by all responsible dealers

The Holtzer-Cabot Electric Co. Boston, Mass.

Doubleday-Hill Electric Co. Distributors

Large Stock of Radio Apparatus

Main 4681 715 12th St. N. W.

REGENERATIVE RADIO SET REQUIRES CARE IN UPKEEP

Polarity of Batteries Should Be Respected and Contacts Kept Clean.

In a regenerative receiver the polarity of the batteries should be respected and all contacts kept perfectly clean and joints soldered. The cause of trouble in such a set, if there be any, may be due to the batteries' loose connections or bad contacts. A good precaution to take when buying your plate battery is to be sure it gives the proper voltage, which is usually twenty-two and one-half volts. This can be done by having the dealer test it for you with a voltmeter.

Batteries run down on the shelf and just because they look new does not mean they are not old. In testing them at home an ordinary electric bulb such as used in houses will glow red, if the battery is in good condition. The test should be made when the battery is new and the condition of it can be verified by the same lamp later on when you think it might be dead.

If it does not glow with the same intensity the battery is losing its strength, and once that starts you may as well get a new one. The storage battery gives six volts and should always be kept in good condition and charged in accordance with instructions that come with them. When charging the batteries be sure the positive charging connection of the charging source is connected to the positive terminal of the battery. Do not test the battery by putting a wire across the terminal to see if you can get a fast spark; this is a dead short circuit on the battery. A "B" battery should never be tested this way under any circumstances.

If no signals are based in the regenerative set, the primary circuit should be first tested. Make sure that the aerial and ground connections are in good condition. Next inspect the primary coil and the condenser. Dirt between the plates will short a primary condenser and when this happens in the primary it is the same as not having it in circuit, but when it occurs in the secondary it short circuits that coil and cuts out signals.

If "frying" or crackling noises are heard in the telephones when the aerial is disconnected, the trouble lies in the B battery, in which a coil is going bad or is making poor contact with the next coil. If a buzzing sound is heard the same is usually in the grid circuit, either broken wire or defective grid condenser or leak.

If an amplifier is used, you will encounter little trouble if good transformers are bought and the proper types of tubes used. In case signals are weaker with an amplifier than with the detector by itself, there may be a bad contact in the socket of the vacuum tube, or a broken wire in one of the windings of the transformer.

When soldering the contacts in any type of receiving set care should be taken not to use too much flux, for if the grease which is used in the flux spreads between two wires or contacts it produces a "high-resistance" leak, through which some currents may pass, causing noises and also weakening the signals considerably.

The wiring of the set should be done with either insulated wire or ball wire covered with spaghetti tubing, which is on sale in the radio stores and which it will pay you to employ.

If you are bothered by howling, it is probably due to the fault of the wiring or having the transformer (if you use too steps) too close. If there is any opportunity for the amplified currents to get back to the grid, this tendency to howl shows itself. The output of any tube has several times the input.

Suppose a current is increasing in the grid and by poor wiring it is possible for some of the increasing output of the plate of the tube to get back to the grid. This will make the increase even more and cause the tube to carry its full limit of output. The tube will then return to normal and the "kick-back" action will start again. This will manifest itself by a horrible noise coming from the telephones or loud speaker.

Some of us know that there are more than 20,000,000 homes in the United States, and almost every one of these homes can be reached by the present broadcasting stations. "Over 3,000 manufacturers are reported by one agency, and estimates as to the persons employed in these factories place the radio industry among the leading businesses of today."

Announcement is made by the radio department of The Washington Herald that its Sunday radio section will hereafter appear in the Wednesday morning issue.

Members of the National Radio Listeners-in-Association of America will meet tonight at 7:30 o'clock at the Y. W. C. A. Building, Eleventh and M streets northwest. A demonstration of the Westinghouse apparatus will be given, together with reports on the superior regenerative and Grebe C. R. 5, with R. O. K. amplifier. L. C. Hedges is president of the organization and James W. Cook is vice president.

Recently the Japanese have been asking themselves much the same question about radio. Can they talk by wireless? Tests have proved that they can, at least, and the Japanese public is taking great interest in the new art. Radio telephone history, at first revealed in the United States, is repeating itself in Japan.

The course of events in the

Dictograph
RADIO
Head Set
(As Pictured)
SPECIAL PRICE
\$8.00

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Radio Dept. Fourth Floor

RADIO SUPPLIES AND OUTFITS

Select your Radio Supplies here, where you are assured of a great assortment at most reasonable prices. Our expert in charge will give you free advice on matters pertaining to Radio.

Do Away With Storage Battery Trouble
Change your 6-volt set to a dry-cell tube with our adapter

\$1.50
1½-volt tube sockets new type, \$1

1½ volt tube WD11 adapters, \$1.50

HARRY C. GROVE, Inc.
The Radio Center
1210 G Street N. W.

RADIO EXPANSION SEEN IN CUBA AS MARKET SWELLS

Station at Havana Can Be Heard at Princeton, New Jersey.

Owing to lack of adequate broadcasting facilities radio developments in Cuba have not kept pace with the progress of radio transmission in the United States, says Assistant Trade Commissioner Lovengoor, Havana, in a report to the Department of Commerce.

Recently a high-power sending center has been established in the capital, and the market for small receiving sets is expected to widen rapidly. This station has not yet made arrangements to supply broadcasting service, but it will do so soon. The apparatus of the company operating this station, which has a capacity of 500 watts, is an exact duplicate of that used by the New York Telephone Company in its Walker street station. Test messages from the new Havana station have been heard as far away as Princeton, N. J.

As in all tropical countries, Cuban enthusiasts have met with difficulty because of "static" disturbances. In spite of all obstacles, however, a considerable number of Cubans are now experimenting in receiving messages, and one or two in transmission. In order to receive from United States stations apparatus of the more expensive kind is necessary. With such sets messages have been received from Memphis, Detroit, Pittsburgh, Jacksonville, Wichita, Kansas City, and Schenectady. Messages from Atlanta have been most successfully received in Havana.

Havana dealers are well equipped to supply radio apparatus in anticipation of broadcasting from the new Havana stations. Interest in radio matters is thoroughly active, and when facilities such as those of the United States are available the merchants believe that Cuba will offer a fine market for this class of merchandise.

Flower Kingdom is revealed in an issue of "The Muses Times," which recently reached The Wireless Age. The publication is an old one, as wireless publications go, and for years has confined itself to wireless telegraphy. "Muses" means wireless. Now, however, it is giving great attention to radio telephony, and the issue in question devotes much space to it, including a long special article on "The Development and Future of the Radio Telephone in the United States." There also are articles on radio telephony in Europe, experiments with moving trains, opening of a new French high-powered radio telegraph station, radio communication between Canada and Australia, the design of the French army's radio telephone transmitter, design and construction of antennas for amateur radio telephone receiving sets, and a story of an operator's adventures.

Will the telephone talk Japanese? That question, foolish as it seems, was asked in all seriousness when Alexander Graham Bell first demonstrated his invention of the telephone. He secured two Japanese college students to prove that they could converse over wires as easily as Americans.

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The course of events in the

DOUBLEDAY-HILL ELECTRIC COMPANY
715 12th Street N. W.

Radio Apparatus \$65.00

Aeriola Senior

For long-distance reception, including Lamp and Head Set, no storage battery required.

PORTABLE RELIABLE ECONOMICAL

Special Sale Today
Radio Head Phones \$8.75 pair
Much less than regularly

These are the Western Electric Head Phones, and if you know their quality and regular selling price you will appreciate what a saving you will gain by purchasing now.

HEAD BANDS AND CAPS AT \$1.85 SET—If you purchased one of the government sets and want to change the band so they will fit satisfactorily, these bands and caps are just what you need.

May we demonstrate the new Dictograph Loud Speaker to you?
\$20

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Make your own Radio set

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These units are all standardized and anyone familiar with tools or machinery can easily assemble a satisfactory Radio set.

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